

***Dart Aerospace Ltd.***

Date: Monday, 26/01/2009 9:12:55 AM  
User: Julie Dawson

## Process Sheet

<b>Customer</b>	: CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b>	: FRAME WELDMENT
<b>Job Number</b>	: 45225		
<b>Estimate Number</b>	: 11202		
<b>P.O. Number</b>	:	<b>Part Number</b>	: D3330041
<b>This Issue</b>	: 26/01/2009 <b>S.O. No.</b> :	<b>Drawing Number</b>	: D3330 REV D
<b>Prsht Rev.</b>	: NC	<b>Project Number</b>	: N/A
<b>First Issue</b>	: 26/01/2009 <b>Type</b> :	<b>Drawing Revision</b>	: D
<b>Previous Run</b>	: 45175	<b>Material</b>	:
<b>Written By</b>	: _____	<b>Due Date</b>	: 02/02/2009 <b>Qty:</b> 2 <b>Um:</b> Each
<b>Checked &amp; Approved By</b>	: <u>JUD 09.01.26</u>		
<b>Comment</b>	: Est. A05.01.13    New Issue KJ/JLM		
	est B    07.05.14 revC dwg      ec		
	Est C    07.12.19 Rev D ecn1085    EC		

### Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

1.0 D33301 Panel



**Comment:** Qty.: 1.0000 Each(s)/Unit    Total : 2.0000 Each(s)

Panel

Pick:

Qty	Part Number	Description	Batch
-----	-------------	-------------	-------

1 D3330-1 Panel

B 4333 → 2x✓

PC 09-02-05

2.0 D33302 Panel



**Comment:** Qty.: 1.0000 Each(s)/Unit      Total : 2.0000 Each(s)

Panel

Pick:

Qty	Part Number	Description	Batch
-----	-------------	-------------	-------

1 D3330-2 Panel

B44239 → 2.1

CP 09-02-05

3.0 D33303 Panel



**Comment:** Qty.: 1.0000 Each(s)/Unit    Total : 2.0000 Each(s)

Panel

Pick:

Qty	Part Number	Description	Batch
-----	-------------	-------------	-------

1 D3330-3 Panel

~~B111210~~ → 2.

Batch: 1344308 → 2.1

Pl 09.02.05

4.0 D33305 Panel



**Comment:** Qty.: 1.0000 Each(s)/Unit      Total: 2.0000 Each(s)

Rail

Pick:

Qty	Part Number	Description	Batch
-----	-------------	-------------	-------

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Monday, 26/01/2009 9:12:55 AM  
User: Julie Dawson

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FRAME WELDMENT

Job Number: 45225

Part Number: D3330041

Job Number:



Seq. #: Machine Or Operation: Description :

1 D3330-5 Panel B37650 → 2x✓

SY 09/01/26

5.0

D33307

Panel



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)

Panel

Pick:

Qty Part Number Description Batch

1 D3330-7 Panel B44241 → 2x✓

SY 09/01/26

6.0

D33309

Top Plate



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)

Top Plate

Pick:

Qty Part Number Description Batch

1 D3330-9 Panel B44242 → 2x✓

SY 09/01/26

7.0

D333011

Long Pin Bracket



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)

Long Pin Bracket

Pick:

Qty Part Number Description Batch

1 D3330-11 Long Pin Bracket B44203 → 2x✓

SY 09/01/26

8.0

D333013

Short Pin Bracket



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)

Short Pin Bracket

Pick:

Qty Part Number Description Batch

1 D3330-13 Short Pin Bracket B37079 → 2x✓

SY 09/01/26

9.0

D333015

Handle



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)

Handle

Pick:

Qty Part Number Description Batch

1 D3330-15 Handle B37080\*

09.02.05

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Monday, 26/01/2009 9:12:55 AM  
User: Julie Dawson

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FRAME WELDMENT

Job Number: 45225

Part Number: D3330041

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

10.0	D333017	Handle Socket
------	---------	---------------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)  
Handle Socket

Pick:

Qty	Part Number	Description	Batch
1	D3330-17	Handle Socket	

B 44204 → 1x ✓  
B 39460 → 1x \*

SL 09/01/26

11.0	D333019	Handle Rim
------	---------	------------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)  
Handle Rim

Pick:

Qty	Part Number	Description	Batch
1	D3330-19	Handle Rim	

B 35485 → 2x ✓

SL 09/01/26

12.0	LARGE FAB 1	LARGE FABRICATION RESOURCE 1
------	-------------	------------------------------



Comment: LARGE FABRICATION RESOURCE 1  
Assemble and Weld as per Dwg Dwg D3330 using D3330-041T1  
Identify as D3330-041

CPL 09-02-05

(X2)

13.0	QC9	VISUAL WELDING INSPECTION
------	-----	---------------------------



Comment: VISUAL WELDING INSPECTION

BE 09-02-05

(2)

14.0	QC5	INSPECT WORK TO CURRENT STEP
------	-----	------------------------------



Comment: INSPECT WORK TO CURRENT STEP

S 09/02/05

(X2)

15.0	POWDER COATING	POWDER COATING
------	----------------	----------------



Comment: POWDER COATING  
Powder Coat Fire Red (Ref: 4.3.5.10) as per QSI 005 4.3

START TIME: 7:36am  
OVEN TEMPERATURE: 320°F  
FINISH TIME: 8:00am

SL 09-02-18

(X2)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Monday, 26/01/2009 9:12:55 AM  
User: Julie Dawson

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FRAME WELDMENT

Job Number: 45225

Part Number: D3330041

Job Number:



Seq. #:

Machine Or Operation:

Description :

16.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

FD 09/02/18 (2)

17.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: \_\_\_\_\_

ST494

AS 09/02/18

18.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

09/02/24

Job Completion

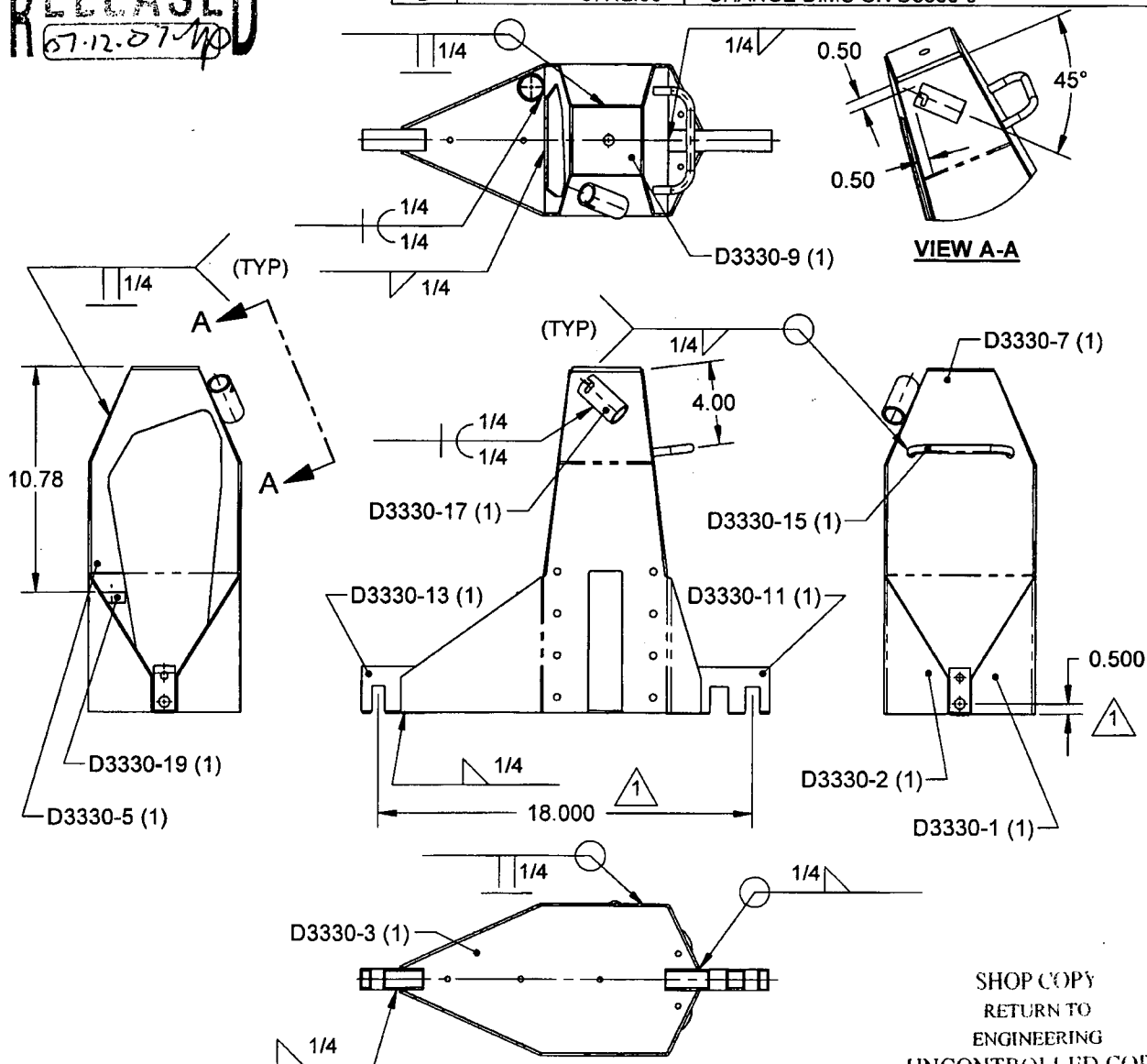


MF 09-02-23



DESIGN <i>13</i>	DRAWN BY <i>DC</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>13</i>	APPROVED <i>W</i>	DRAWING NO. <b>D3330</b>	REV. D SHEET 1 OF 9
DATE <b>07.12.06</b>	TITLE <b>FRAME WELDMENT</b>	SCALE 1:8	
REV	DATE	DESCRIPTION	
A	04.12.16	NEW ISSUE	
B	05.02.26	RE-DESIGN	
C	07.03.20	ADD 0.100 DIM; RAISED BEND OF -1/2 BY 0.125	
D	07.12.06	CHANGE DIMS ON D3330-9	

RELEASED  
07.12.07



### D3330-041 FRAME WELDMENT

#### NOTES:

- 1) POSITION PARTS AS PER JIG D3330-041T1
- 2) WELD PER QSI 004
- 3) FINISH: POWDER COAT PAINT FIRE RED (4.3.5.10) PER DART QSI 005 4.3
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) BREAK ALL SHARP EDGES 0.010 TO 0.020

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. *45225*

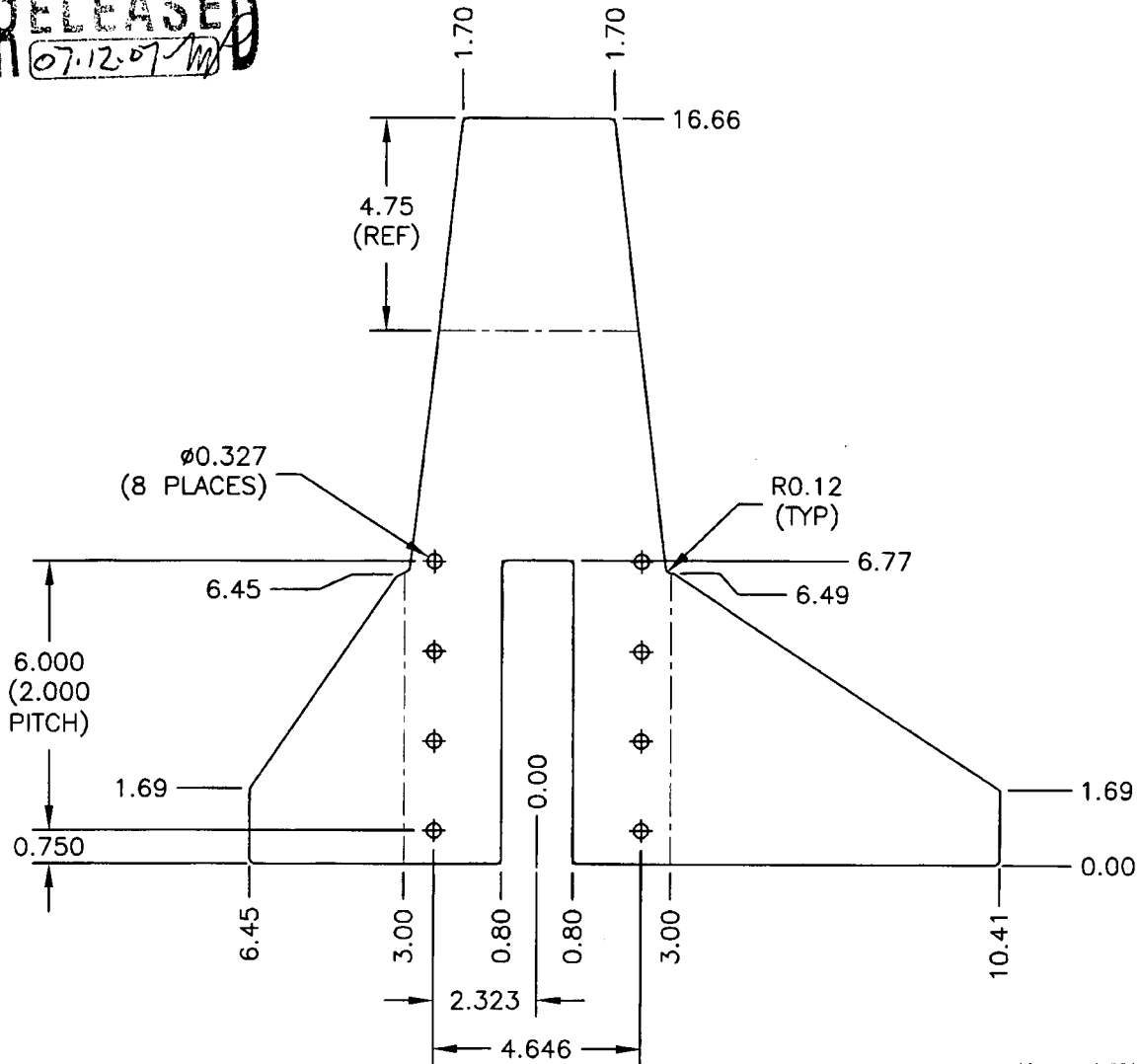
COPYRIGHT © 2004 BY DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.



**DART**

DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3330	REV. D SHEET 2 OF 9
DATE 07.12.06		TITLE FRAME WELDMENT	SCALE 1:4

**RELEASED**  
07.12.07 *[Signature]***D3330-1 PANEL****NOTES:**

- 1) MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A1008 OR CSA G40-21 38W/44W/50W/60W/70W SERIES STEEL 11 GAUGE (0.125 THICK)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.010

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER

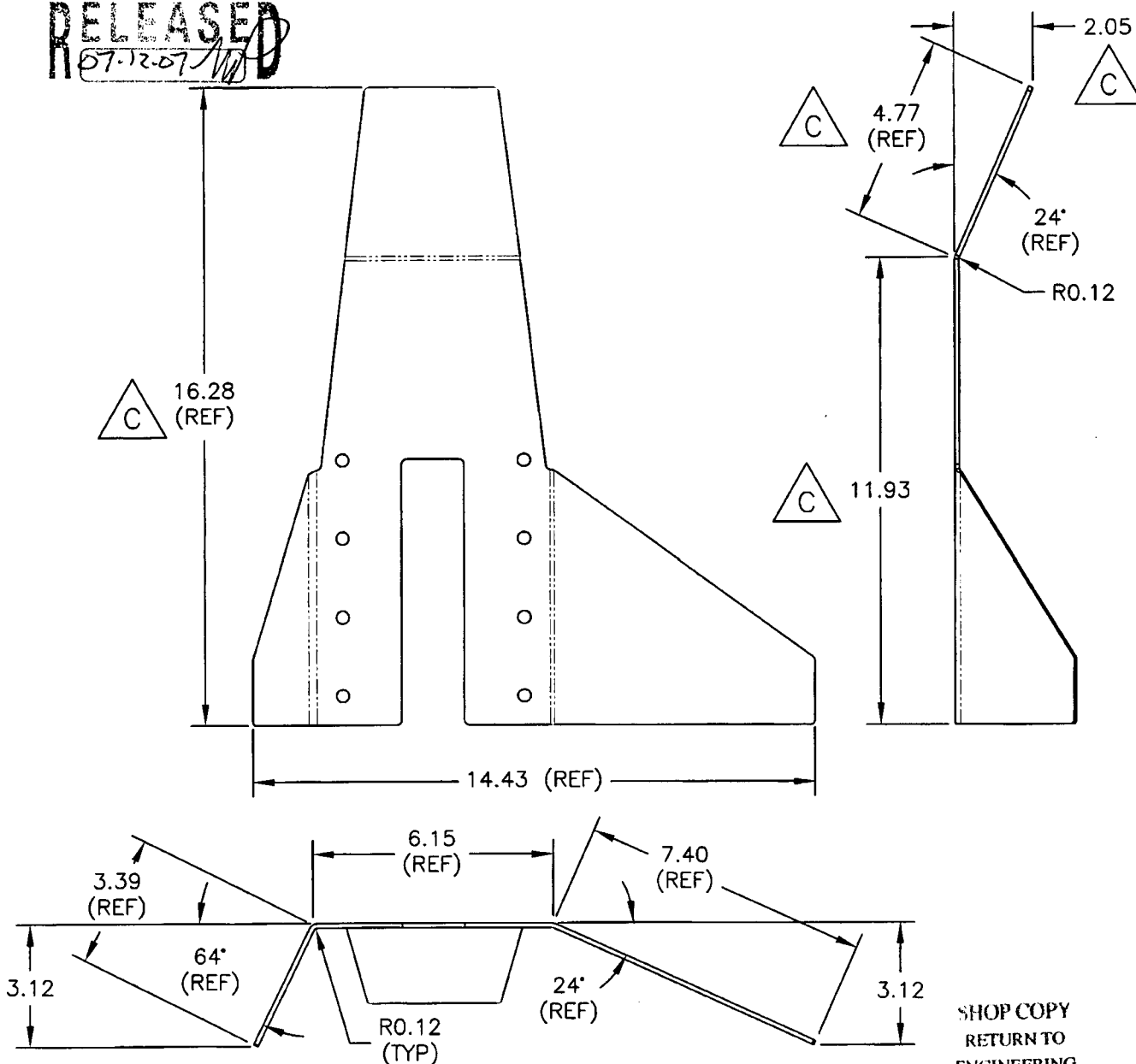
**Copyright © 2004 by DART AEROSPACE LTD**

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.



DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3330	REV. D SHEET 3 OF 9
DATE 07.12.06		TITLE FRAME WELDMENT	SCALE 1:4

RELEASED  
07-12-07



**D3330-1 BEND DETAIL (SHOWN)**  
BEND D3330-2 (OPPOSITE)

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 45225

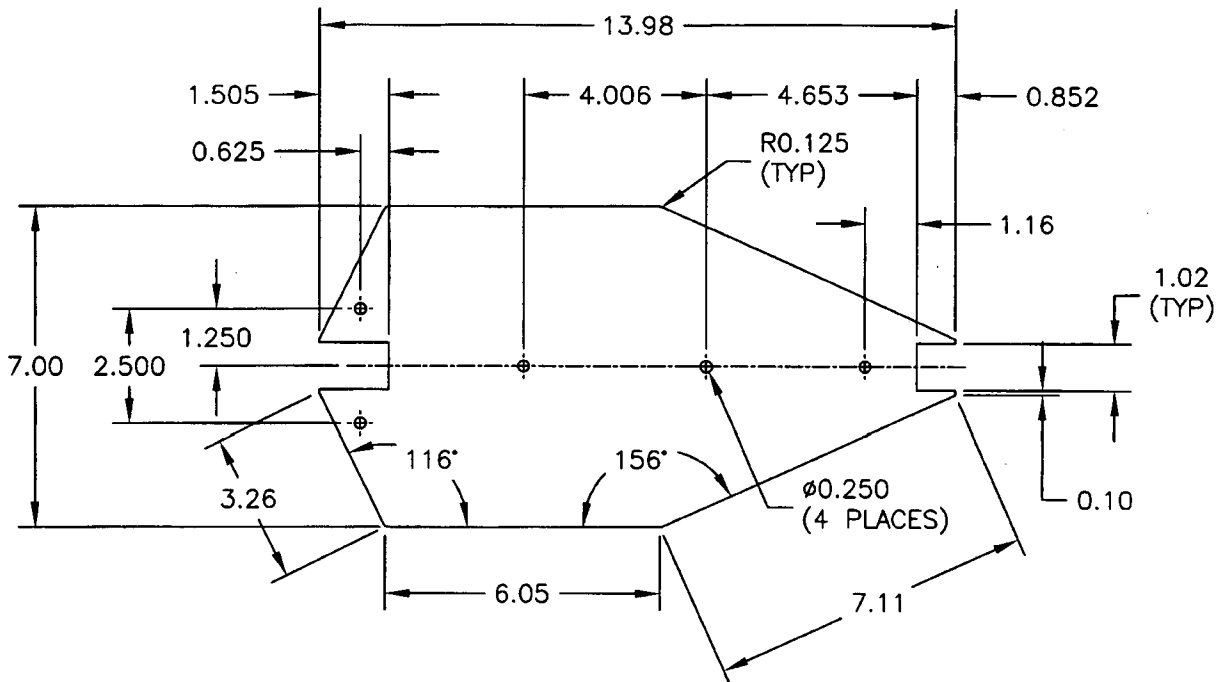
Copyright © 2004 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.



DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3330	REV. D SHEET 4 OF 9
DATE 07.12.06		TITLE FRAME WELDMENT	SCALE 1:4

RELEASED  
07.12.07 *[Signature]*



### D3330-3 PLATE

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. *45225*

#### NOTES:

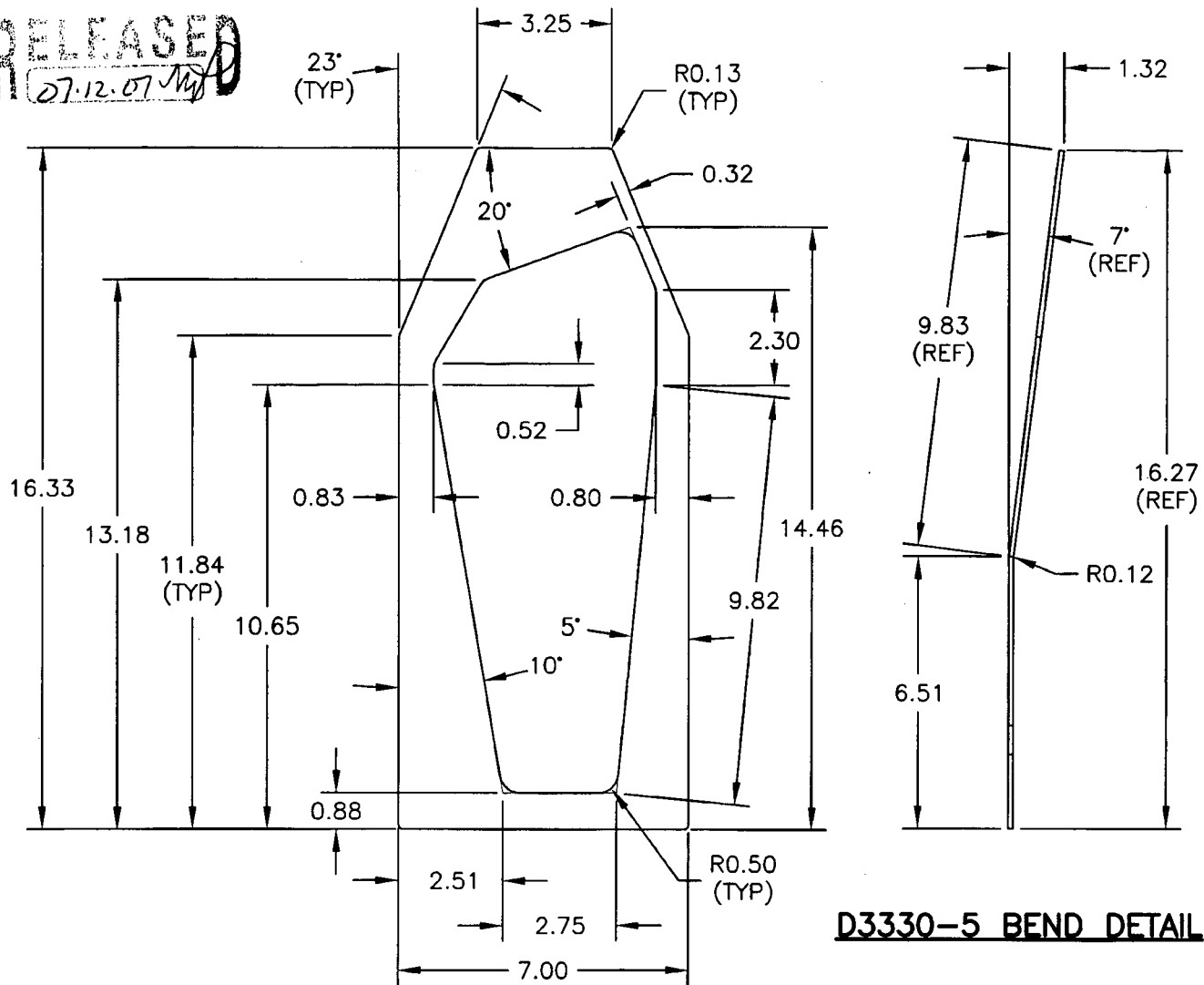
- 1) MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A1008 OR CSA G40-21, 38W/44W/50W/60W/70W SERIES STEEL 11 GAUGE (0.125 THICK)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.010

Copyright © 2004 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

**DART**

DESIGN <i>B</i>	DRAWN BY <i>DC</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>5</i>	APPROVED <i>IN</i>	DRAWING NO. D3330	REV. D SHEET 5 OF 9
DATE 07.12.06		TITLE FRAME WELDMENT	SCALE 1:4

RELEASED  
07.12.07 *My***NOTES:**

- 1) MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A1008 OR CSA G40.21 38W/44W/50W/60W/70W SERIES STEEL 11 GAUGE (0.125 THICK)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.010

SHOP COPY

RETURN TO

ENGINEERING

UNCONTROLLED COPY

SUBJECT TO AMENDMENT

WITHOUT NOTICE

WORK ORDER

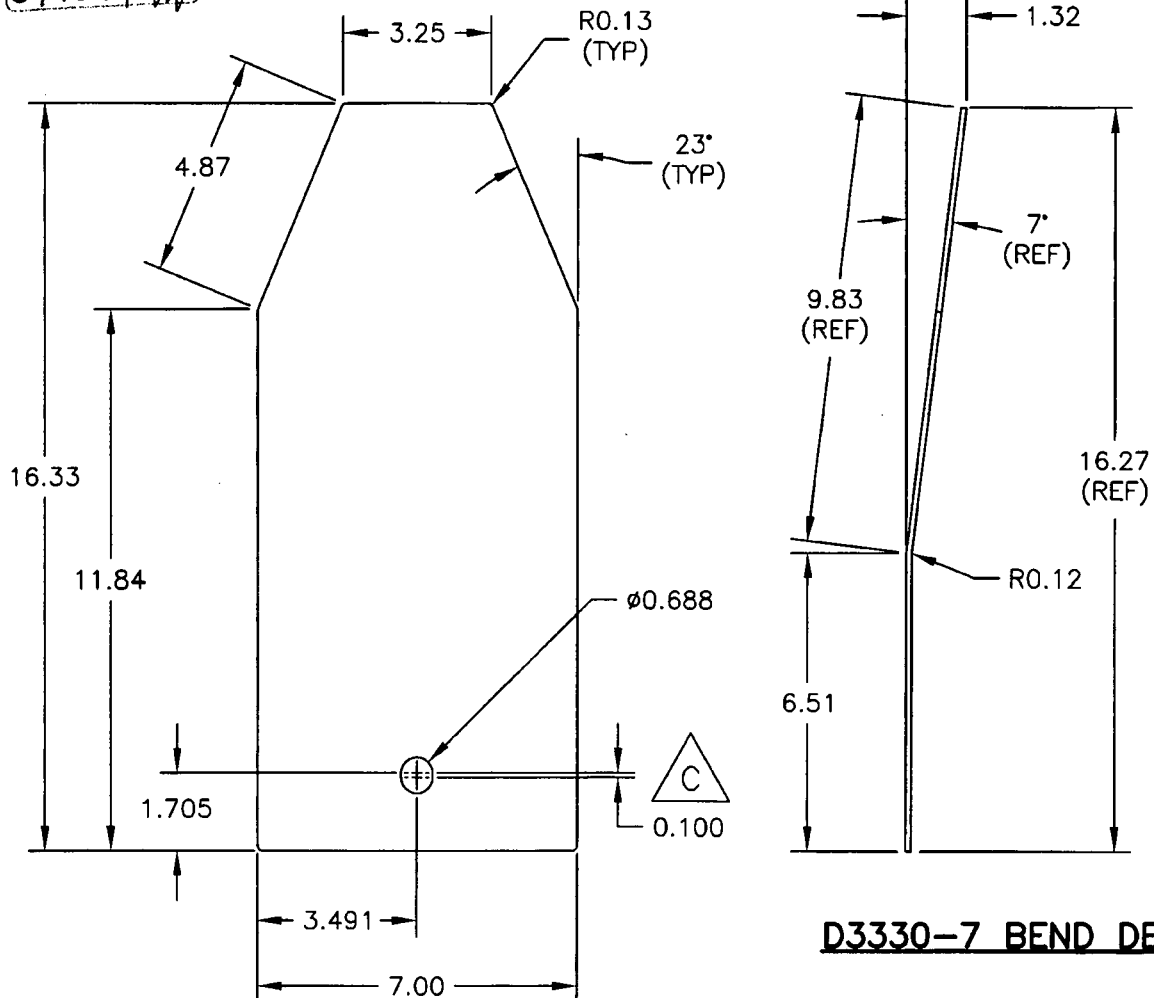
NO. *45225*

Copyright © 2004 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

**DART**

DESIGN <i>[Signature]</i>	DRAWN BY <i>DC</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3330	REV. D SHEET 6 OF 9
DATE 07.12.06	TITLE FRAME ASSEMBLY		SCALE 1:4

RELEASED  
07.12.07 MB**D3330-7 BEND DETAIL****FLAT PATTERN****NOTES:**

- 1) MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A1008 OR CSA G40-21 38W/44W/50W/60W/70W SERIES STEEL 11 GAUGE (0.125 THICK)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.010

SHOP COPY

RETURN TO

ENGINEERING

CONTROLLED COPY

SUBJECT TO AMENDMENT

WITHOUT NOTICE

WORK ORDER

NO. 15225

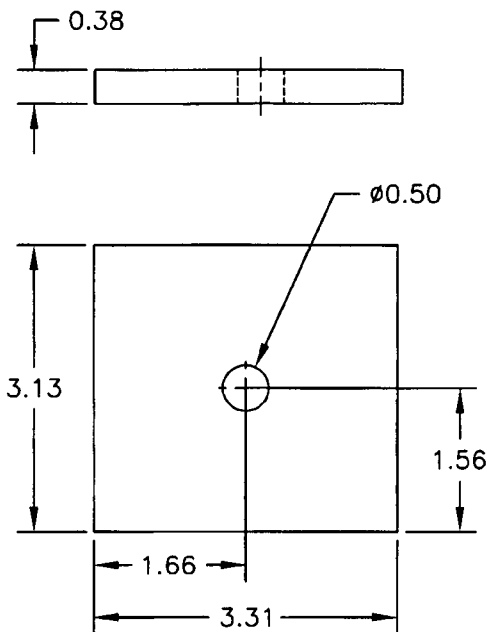
Copyright © 2004 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

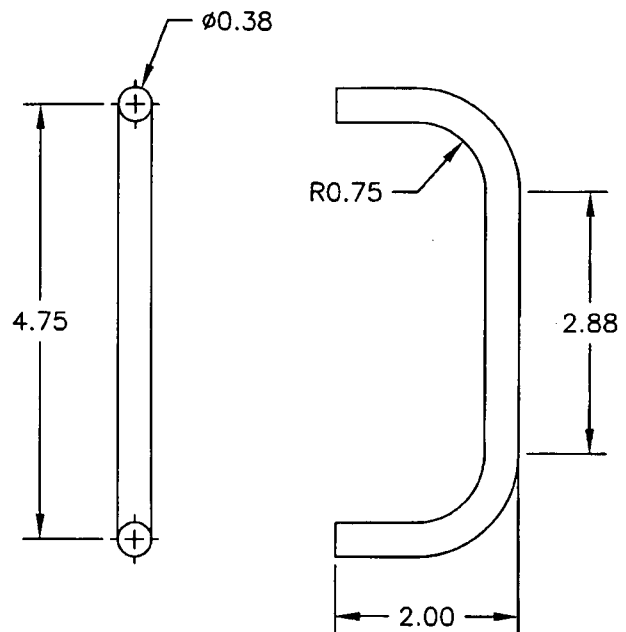


DESIGN <i>[Signature]</i>	DRAWN BY <i>DCP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3330	REV. D SHEET 7 OF 9
DATE 07.12.06		TITLE FRAME WELDMENT	SCALE 1:2

RELEASED  
07.12.07 *[Signature]*



1 D3330-9 TOP PLATE



2 D3330-15 HANDLE

NOTES:

- 1) MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A1008, 0.375 STEEL (REF. DART SPEC. M1010-B0.375x3.500)
- 2) MATERIAL: AISI 1018-1025 ROUND BAR PER MIL-S-7097 (REF. DART SPEC. M1018-R0.375)
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED SUBJECT TO AMENDMENT
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010

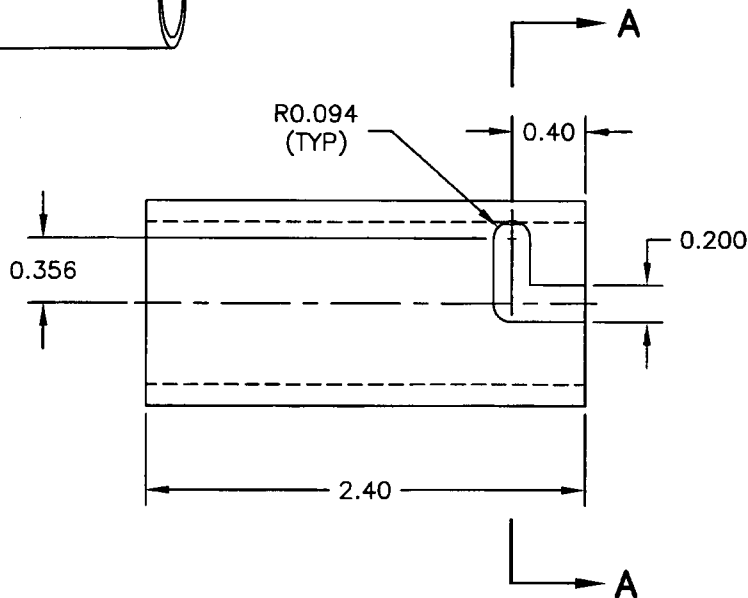
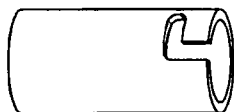
SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
WITHOUT NOTICE  
WORK ORDER  
NO. *45225*

Copyright © 2004 by DART AEROSPACE LTD

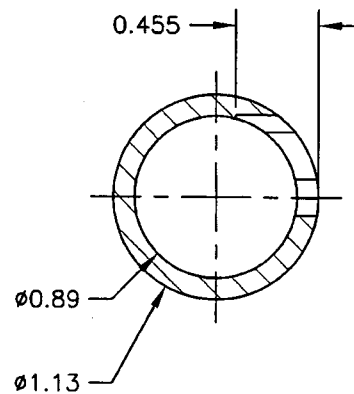
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.



DESIGN <i>[Signature]</i>	DRAWN BY <i>DC</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3330	REV. D SHEET 8 OF 9
DATE 07.12.06		TITLE FRAME WELDMENT	SCALE 1:1

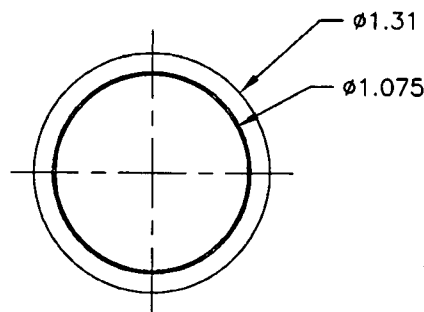
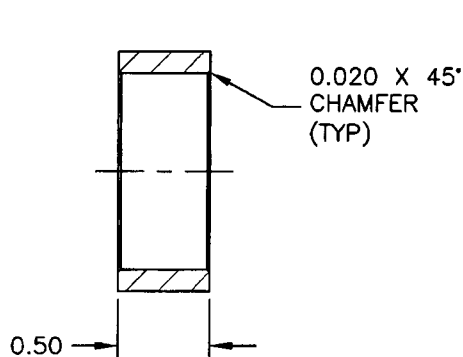


RELEASED  
07.12.07 *[Signature]*



**SECTION A-A**

**D3330-17 HANDLE SOCKET**



**D3330-19 HANDLE RIM**

**NOTES:**

- 1) MATERIAL: 1010-1025 ROUND BAR STEEL PER MILL-S-7097 (REF. DART SPEC. M1025TR)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.010

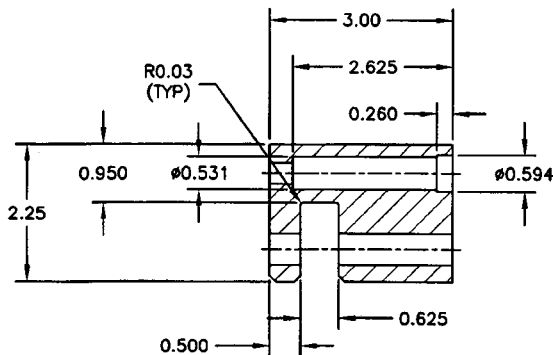
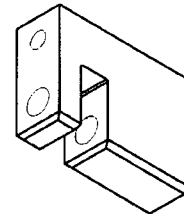
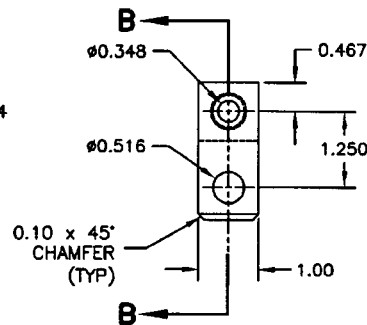
SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
*15225*

Copyright © 2004 by DART AEROSPACE LTD

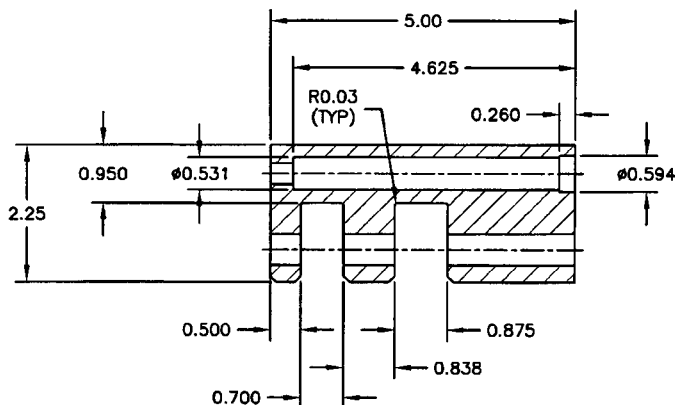
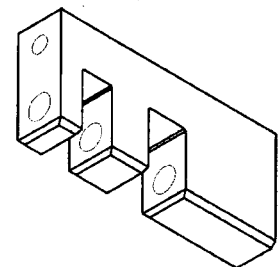
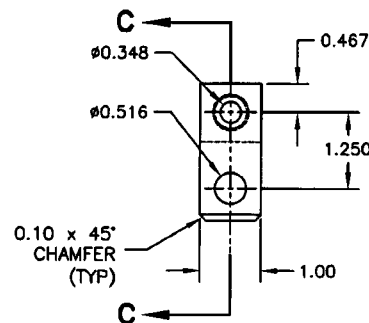
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

**DART**

DESIGN <i>[Signature]</i>	DRAWN BY <i>DC</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3330	REV. D SHEET 9 OF 9
DATE 07.12.06		TITLE FRAME WELDMENT	SCALE 1:3

**SECTION B-B****D3330-13 SHORT PIN BRACKET**

RELEASED  
07.12.07

**SECTION C-C****D3330-11 LONG PIN BRACKET****NOTES:**

- 1) MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A569/A570, 1.000 THICK STEEL (REF. DART SPEC. M1010-B1.000x02.250)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.010

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. *[Signature]*

**Copyright © 2004 by DART AEROSPACE LTD**

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.